

Docket No.: 1614.1384

Serial No. 10/780,603

AMENDMENTS TO THE DRAWINGS:

Corrected Drawings of FIGS. 1-3, 5, 7 and 10, each labeled "REPLACEMENT SHEET," are enclosed. The changes to FIGS. 1-3 designate same by the legend - -PRIOR ART- -. Changes in FIGS. 5, 7 and 10 are highlighted in red in the attached annotated copies of the corrected drawings.

Approval of these changes and entry of the corrected Drawings is respectfully requested.

REMARKS

In accordance with the foregoing, FIGS. 1-3 with labels - - Prior Art - - and each further designated REPLACEMENT SHEET are filed, responsive to Item 2 of the Action.

Further, REPLACEMENT SHEETS of FIGS. 5, 7 and 10 with corrected numbering are supplied and corresponding sheets annotated with red highlighting to indicate the changes made as well are provided.

Further, the specification and claim amendments, both directed to improving form and without change of substance, are submitted. No new matter is presented. Accordingly, approval and entry of the replacement sheets of drawings and the specification and claim amendments are respectfully requested.

ITEM 2: REQUIREMENT TO DESIGNATE FIGS. 1-3 WITH LEGEND - - PRIOR ART - -

In the foregoing, replacement FIGS. 1-3 with such - - PRIOR ART - - labels are supplied. Accordingly, it is requested that the requirement be withdrawn.

ITEM 3: OBJECTION TO DRAWINGS REGARDING ALLEGED FAILURE TO SHOW:

- A) "an electronic parts mounting regions 77-1, 78-3 as shown in Specie I (FIGS. 4-8);"
and
- B) "the daughter board ... the lower end thereof, claim 3, lines 7-10."

An electronic parts mounting region 77-2 is seen in FIG. 6 on the Y2 side of main board 71-1 and at 78-2 on the Y1 side of the main board 71-2 in corrected FIG. 7. (Note that "and 78-3" has been deleted from the description at page 8, line 12 in accordance with the foregoing specification amendments.)

The objection in Item 3 to "the daughter board...the lower end thereof" recited in claim 3 at lines 7-10 is not understood. Two daughter boards 71-1 and 71-2 are shown in FIG. 6 and in others of Figs. 4-8 and each clearly has a lower end in the context of the two boards being shown in a vertically upright position (Z1-Z2)- - and which lower (Z1) ends are received in the connectors 101-1 and 101-2, respectively, on the mother board 60.

ITEM 5: REJECTION OF CLAIMS 1-2, 4 AND 7 UNDER 35 U.S.C. §103(A) AS BEING UNPATENTABLE OVER POTTER ET AL. (U.S. PATENT 6,533,587) IN VIEW OF HSU (U.S. PATENT 6,388,895)

The rejections are respectfully traversed.

THE POTTER REFERENCE

At the outset, it is noted that the Action relies on the prior art disclosure in FIG. 1 of Potter having two daughter boards 12 mounted by respective mother board sockets 10 to extend vertically from a mother board 20 and having respective expansion boards 14 mounted thereto by board – edge receiving sockets 13 so as to be positioned at a common vertical height and essentially to extend horizontally in a common plane between the spaced riser cards 12. Indeed, Potter emphasizes this relationship in column 3, lines 30 – 36, i.e., the expansion boards 14 are “each oriented in a plane parallel to the mother board, i.e., horizontally in the figure as shown.” The balance of the description of the FIG. 1 structure, throughout substantially the balance of column 3, as well as the discussion of the prior art in columns 1-2 of Potter point out the deficiencies of such a structure as shown in FIG. 1 of Potter.

It is believed relevant and informative to consider the structure of the Potter invention, in FIG. 3 of the reference. More particularly, Potter discloses in FIG. 3 a mother board 20, a single riser card 30, and a connector 34 for connecting the riser card 30 to the mother board 20. As seen in FIG. 3, the riser card 30 includes first and second board connectors 36, mounted horizontally on respective opposite sides of the riser card 30, having respective slots for receiving corresponding edges of the respective expansion boards 40 (FIG. 3).

Potter thus teaches that the FIG. 1 structure of the parallel spaced daughter boards as disclosed and claimed in the present application is deficient and, instead, proposes a single riser board structure - - clearly a teaching away from the present invention.

THE HSU REFERENCE

Hsu discloses in FIG. 1 a conventional telecommunication main distribution frame structure employing first and second PCB boards 10 and 20 receiving “several pairs of insertion pins 30, four insertion seats 60, four buses 70, four corresponding insertion seats 80...” mounted on the boards 10 and 20 so as to extend in opposite directions therefrom (column 1, lines 12-55) and which structure “has some shortcomings...” (column 1, line 57-column 2, line 3) rendering the structure “complicated and troublesome.” (column 2, line 3).

Hsu discloses as an invention a telecommunication main distribution frame structure shown in FIGS. 4 and 7 which includes a single, three layered PC (riser) board 40. Four buses 70 are connected to the PC board via corresponding insertion seats 60 and 80. The left side

buses extend from the PC board in a direction opposite to that of the right side buses (FIGS. 2 and 7).

INDEPENDENT CLAIMS 1 AND 2 PATENTABLY DISTINGUISH OVER POTTER AND HSU, TAKEN SINGULARLY OR IN ANY PROPER COMBINATION

It is first noted that Potter and Hsu “teach away” from the claimed invention. As a general rule, references that teach away from a claimed invention cannot serve to create a *prima facie* case of obviousness. Potter discloses that a single riser card (daughter board) of the Potter invention, as disclosed and claimed, is advantageous over a pair of riser cards - - which Potter discloses as the prior art/conventional structure having many deficiencies. See Potter, col. 2, lines 51-55, and FIG. 3. Hsu likewise discloses a conventional structure of two, independent and spaced boards 10 and 20 and points out the deficiencies of same and therefore teaches, as the invention of Hsu, a single PC board 10 (FIG. 4) or 40 (FIG. 7). Both Potter and Hsu disclose that the mounting boards project in opposite directions from respective, opposite sides of the single PC board.

Claim 1 as amended hereinabove, recites:

the electronic parts first mounting board of the first board unit and the electronic parts second mounting board of the second board unit facing each other, being located at different heights relative to the mother board, and overlapping each other when seen from the tops of the first and second daughter boards.

Claim 2, likewise as amended hereinabove, recites in the closing paragraph:

the electronic parts first mounting board of the first board unit and the electronic parts second mounting board of the second board unit facing each other and overlapping with each other when seen from the tops of the first and second daughter boards.

Contrary to the references, the independent claims 1 and 2 hereof expressly recite the use of first and second board units mounted vertically on a mother board and carrying respective first and second mounting boards facing each other and located at different heights relative to the mother board thereby overlapping each other....”

The structure defined by the independent claims clearly, patentably distinguishes over the teachings of Potter and Hsu taken singularly or in any proper combination.

Indeed, the Action is silent to any *prima facie* demonstration of the obviousness of combining the teachings of the two references. Moreover, the opposite is true. For example, if one of ordinary skill in the art were to combine the teachings of Potter and Hsu into one device (assuming this can somehow be accomplished), one would achieve a single daughter board with projecting electronic parts mounting boards projecting from opposite directions from the board and not necessarily in any parallel relationship with the mother board or with each other. Clearly, the structures disclosed by the teachings of the two references would not even have the capability of providing the overlying or overlapping relationship between respective mounting boards of the spaced daughter boards. This is different from the claimed invention because the claimed invention requires two, spaced daughter boards: a first daughter board and a second daughter board.

Assuming one of ordinary skill in the art were to combine the teachings of Potter's FIG. 1 prior art (a pair of riser cards) with the Hsu reference (this is not likely because Potter teaches against using a pair of riser cards; see Potter, col. 2, lines 51-55, and FIG. 3), the Examiner has not identified where, in the references, one would arrive at the above mentioned features of claims 1 and 2.

In fact, any such combination of Potter's FIG. 1 and Hsu obtains a result different from the claimed invention. Hsu discloses a pair of buses 70 (alleged electronic parts mounting boards) connected to the same PC board (alleged daughter board). Hsu does not disclose that the pair of buses (alleged electronic parts mounting boards) are connected to different PC boards (alleged daughter boards). Thus, incorporating the teachings of Hsu into FIG. 1 of Potter, would, at most, arrive at what is shown in Applicant's FIG. 2: two memory board units which individually have respective memory boards having no overlapping relationship. That is to say, in the combination proposed by the Examiner, the memory boards of one daughter board do not overlap with the memory boards of a second (different) daughter board.

For the foregoing, reasons, because the Potter and Hsu references "teach away" from the present invention, they clearly lack any suggestion of modifying one in view of the other and, themselves defeat any suggestion that they could establish a *prima facie* obviousness of the combination of the two references. In addition, even if Potter and Hsu were somehow combinable, such combination would fail to achieve the claimed features noted above.

For at least the foregoing reasons, the inventions as recited in claims 1 and 2 distinguish patentably over the references and rejections of record.

DEPENDENT CLAIMS 3, 4 AND 7

The dependent claims inherit the limitations of the respective independent claims and, for at least the same reasons, patentably distinguish over the references of record, taken singularly or in any proper combination; moreover, they distinguish further in light of the respective limitations thereof.

CONCLUSION

It is respectfully submitted that the foregoing has demonstrated that the independent claims distinguish patentably over the references of record. There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.


Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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FIG.5

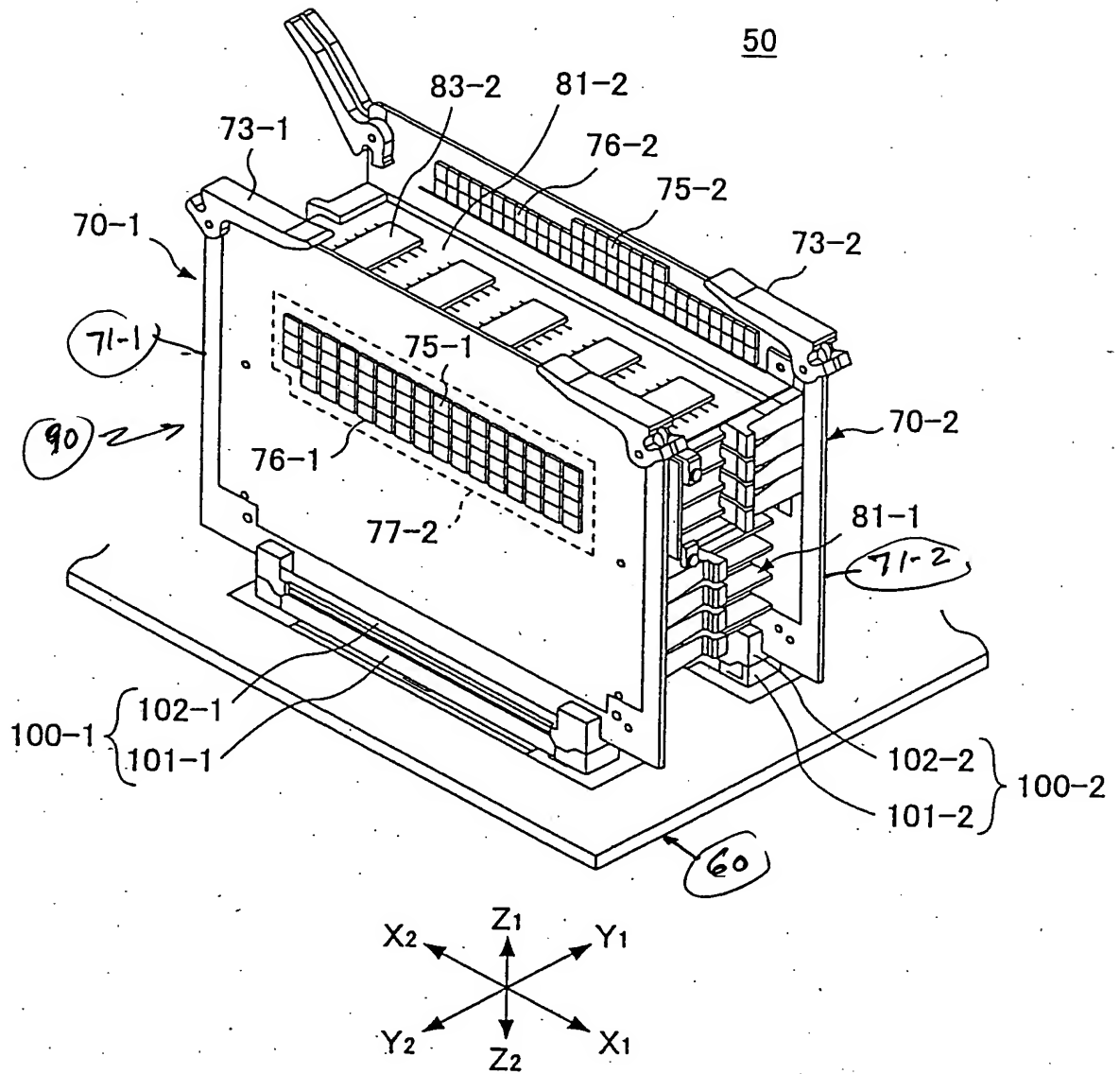




FIG.10

